5: Allan C-5 (1941)1949 FR5 Ngoni FR5
Mpezeni
Lamba FQ8
Maravi FR4

The great escarpment area of the Eastern Province, much of it inaccessible and uninhabitable, except for small pockets of fertile soil, was opened to unrestricted settlement by the Ambo and Senga-Kunda peoples. Other areas of poor soils and low carrying capacities in Fort Jameson District were also opened to free settlement up to a population total determined by the carrying capacity.

In Ndola District an area was opened to immediate uncontrolled settlement, in order to relieve acute land shortage and actual starvation in one section of the Reserve.

A somewhat modified method has been used in parts of Petauke District where dams are the only means of providing water. Here the population unit consists of three or four villages grouped into a 'parish' and settled about the watering points. A single land area is demarcated for each of these groups, instead of allocating a separate block to each village. This method allows of economy in the distribution of watering points, tends to reduce the effect of inter-village movements and, it is hoped, will lead to larger administrative units.

§ 7. *Agricultural Control and Improvement*

The general object of resettlement is to re-establish a population-land balance on the basis of traditional land usage *and the present population numbers*. Obviously, this balance cannot be permanent if the population is increasing; and if it is not increasing something is seriously wrong. Reliable vital statistics are entirely lacking but probably most of the tribes are increasing (the Ngoni may be an exception) at a rate which, judging by the very few available data, may be about 1½ per cent per annum, a rate which would double the population in forty-six years.

Resettlement is not, and was never regarded as, a substitute for agricultural improvement. The objects are to reduce the agricultural problem to *practicable proportions, to relieve acute land shortage, to give time for* experiment and the introduction of new methods. The assumption is that an evolutionary process of agricultural improvement will keep pace with natural increase of population, and that this process must be guided by experiment.

Simple measures of agricultural control, and the beginnings of soil conservation and agricultural improvement, have been introduced in each of the resettlement areas as a condition of occupation. It need hardly be said that these are not popular with the majority and the existence of such conditions is a deterrent to movement.

In the case of the earlier settlements in the Fort Jameson District an elementary system of soil conservation was introduced by demarcating the land for cultivation in contour strips separated by untouched belts of grass (which acquired the name of 'ten-yardis' since the original strips were ten paces wide). This was followed by an attempt to replace the traditional mound system of Ngoni, Chewa and Senga by cultivation on ridges

5: Allan C-5 (1941) 1949 FR5 Ngoni FR5 ●
Mpezeni
Maravi FR4
Lamba FQ8

approximately on the contour and parallel to demarcated 'marker' ridges on the true contour. A system of contour cultivation has now been developed which is proving practical and effective. The 'marker' ridges are demarcated at a vertical interval of two feet six inches and are gradually converted by the people into more or less broad-based banks. In the first year the ridge is built up to a base width of six feet and a height of not less than six inches. The base and height are increased until a permanent bank eight feet wide at the base and eighteen inches in height is completed. Villages on the 'ten yardi' system can change over to contour cultivation if the majority of people elect to do so. New villages are allowed to move into resettlement areas in the Eastern Province only on condition that they agree to practice contour cultivation; they are given four or five years to adapt themselves to the new system but in many cases practically the whole of the new gardens are under ridges by the end of the second year. Cultivation practice has been adapted to the new system and, meanwhile, experiments are being made to find the best methods of ridging, spacing and planting of crops for use in conjunctions with the ridge cultivation system.

In the Ndola District gardens are laid off between contour grass strips at vertical intervals of two feet. The people are then encouraged to convert the grass strip into three parallel ridges approximating to the normal dimension of their mounds for subsidiary crops and to plant the ridges with beans and cowpeas; or to make one or two such ridges and plant the remainder of the strip with groundnuts on the flat—a combination of contour ridges and strip cropping. This method, an adaptation of normal Lamba practice was adopted after a series of trials to find the simplest method of erosion control acceptable to these somewhat backward people. The object is not only to check erosion but to restore the cultivation of subsidiary crops, now almost entirely neglected. The planting of the ridges to beans and cowpeas and the strips to groundnuts restores the balance between cereals and legumes and should allow of a small surplus for sale. The idea seems to be less unpopular than one might expect and most villages have made a satisfactory effort to convert the strips into ridges for the cultivation of subsidiary crops.

Contours are laid off by trained African Assistants of the Department of Agriculture, using road tracers, and it has been found necessary during the initial stages of settlement to have one or two African Assistants* for at least every ten villages or, approximately, for every 600 to 1,000 people. Constant supervision is maintained during the initial phase by the African Agricultural Assistants in co-operation with District Messengers and the Native Authorities. This supervision is irksome and resented by some of the older people but it is, perhaps, significant that at a recent meeting of the African Regional Council of the Western Province after the subject had been freely debated, the council voted by a large majority for an increase in the number of Agricultural Capitaos.

Fruit tree planting has also been introduced and in the Eastern and Western Provinces laws made by the Native Authorities require each household

* Usually one and a learner assistant at Ndola.

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594 after moving other beans out of a hole. A boys' game played in the wet season is played with egg-shaped pieces of mud, with a small flange at one end. These pieces are thrown down on to the water, and ought to make an explosive noise.

/11/ VII

243 [221] Maize, the main crop, is planted with the first steady rains in November, and is harvested soon after the end of the rains in April or May. Under the influence of the Agricultural Department of the [243] Government, planting in small ridges following the contour is increasingly practised, but prior to the introduction of this and other new agricultural methods in the 1930s, planting was carried out in mounds about three feet in diameter and eighteen inches high. Finger millet is grown on patches of soil on which branches and garden 241 trash have been burnt. However, the citemene system, as known in other parts of the country, in which trees are felled over a wide area and burnt to fertilise a small area in the middle, is not practised as a principal method here. Finger millet is the only crop to be planted solely in ash fertilised patches, while the rest of the cleared ground may be planted with beans and nuts, and in the following season, with maize. Gardens last from two up to twenty or more years, depending on the type of soil, and the selection of a garden site is determined to some extent by the nature of the soil and of the vegetation growing on it.

244 In seepage areas, dry season gardens can be cultivated, and it is in such gardens, fenced in to keep out straying animals, that vegetables are grown for sale to Europeans and in the villages. These sites are also used for early planted maize, which is harvested in January and eaten in the form of green mealies. In the villages [249] themselves, small plots of tobacco and castor oil are grown on old hut sites, while abandoned village sites are used as subsidiary gardens for maize and other crops. Mango, banana, and pawpaw trees are 245 found in villages and on the sites of abandoned villages.